EPO-TEK® H20E-8

Technical Data Sheet
For Reference Only
Electrically Conductive, Silver Epoxy

Date:	July 2019	
Rev:	IV	
No. of Components:	Two	
Mix Ratio by Weight:	1 : 1	
Specific Gravity:	Part A: 2.72	Part B: 4.33
Pot Life:	3 Days	
Shelf Life- Bulk:	Six months at room temperature	

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
150°C / 5 Minutes
120°C / 15 Minutes
80°C / 90 Minutes

NOTES:
- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.

Product Description: EPO-TEK® H20E-8 is a two component, silver-filled epoxy system designed specifically for chip bonding in microelectronic and optoelectronic applications. It is a higher viscosity and higher thixotropic version of EPO-TEK® H20E.

Typical Properties: Cure condition: 150°C / 1 Hour Different batches, conditions & applications yield differing results.
Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:			
* Color (before cure):	Part A: Silver	Part B: Silver	
* Consistency:	Thixotropic paste		
* Viscosity (23°C) @ 20 rpm:	10,000-20,000	cPs	
Thixotropic Index:	4.9		
* Glass Transition Temp:	≥ 80	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	26	x 10^{-6} in/in°C	
Above Tg:	111	x 10^{-6} in/in°C	
Shore D Hardness:	66		
Lap Shear @ 23°C:	1,216	psi	
Die Shear @ 23°C:	≥ 5	Kg	1,778 psi
Degradation Temp:	470	°C	
Weight Loss:			
@ 200°C:	0.25	%	
@ 250°C:	0.37	%	
@ 300°C:	0.79	%	
Suggested Operating Temperature:	< 350	°C (Intermittent)	
Storage Modulus:	791,453	psi	
Ion Content:	Cl^-: 141 ppm		
	NH_4^+: 265 ppm		
* Particle Size:	≤ 45	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	3.5	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0004	Ohm-cm

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EPO-TEK® H20E-8 Advantages & Suggested Application Notes:

- Especially recommended for use in high speed epoxy chip bonding systems where very fast cures are desired.
- Suggested for JEDEC Level III and II for plastic IC packaging.
- Capable of resisting TC wire bonding temperatures in the range of 300°C to 400°C.
- Ease of use: apply by dispensing, screen printing, die-stamping, or by hand.
- Especially suited for high power devices and high current flow; high power LEDs.
- Opto-electronic packaging material: LED, LCDs, and fiber optic components.

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